Tricolops Dimensioning Application User Manual

V1.0
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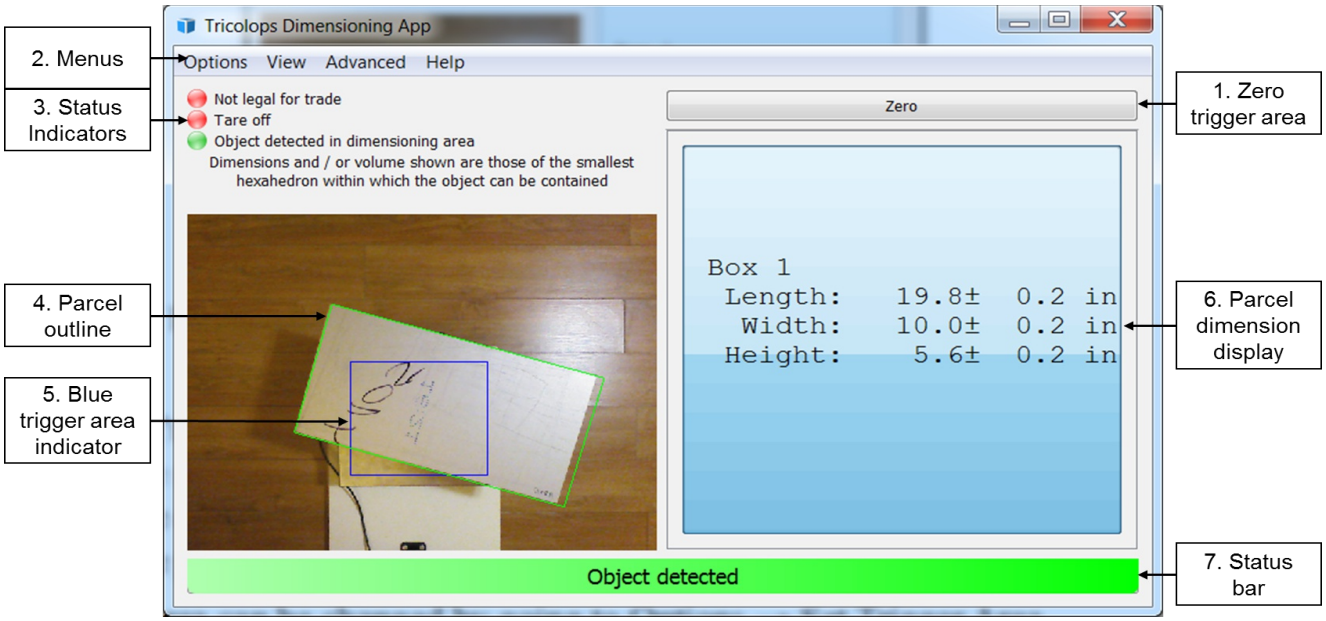
Main Window

The main application shows the video feed from the dimensioner, as well as dimensions of detected parcels.



Zero trigger area

Remove all objects from the scale or baseboard, and press the button to re-calibrate the dimensioner to the trigger area. Re-calibrating to the trigger area maybe necessary when:

- Application indicates trigger area requires re-calibration.
- Application indicates objects are detected in the trigger area when the trigger area is free of objects.

Menus

- Options
  - Dimension Unit: Selects the dimension unit.
  - Weight Unit: Selects the weight unit (if a scale is connected).
  - Set Trigger Area: Allow the user to adjust the trigger area. A black square will appear in the video feed, use mouse to click and drag the edges of the black square to a flat surface. This flat surface can be the top of a scale or the base platform depending on application. See Software Setup Guide for more information.
- View
  - Camera: Switch camera views to the video feed.
  - Depth: Switch camera view to the depth feed.
  - History: Opens the Tricolops History interface. See Tricolops History below for more information.
- Advanced
  - Dimensioners: Opens the dimensioner selection interface. This interface allows you to scan for and connect to Tricolops dimensioners.
  - Scales: Opens the scale selection interface. This interface allows you to specify

type of USB scale connected, as well as connect to them.
    - Settings: Opens advanced settings interface. See Advanced Settings below for more information.
- Help
    - Setup Wizard: Opens the Setup Wizard interface. See Software Setup Guide for more information.
    - About: Opens the About dialog. This interface allows you to view the version of Tricolops Dimensioner installed and IP address of the computer.
    - Assistance: Allows a Tricolops' service representative to take control of the Tricolops Dimensioning Application remotely. Email support@tricolopstechnology.ca to setup a appointment.

Status indicators

The top left corner of the window has 3 indicators:

- Legal for trade: Red indicates the device operates in non-legal for trade mode. Green indicates the device operates in legal for trade mode.
- Tare: Red indicates no offset has been added to dimension readings. Green indicates offsets have been added to one of the dimension readings. Offsets can be changed by going to Advanced → Settings → Measurement.
- Status: Green indicates an object has been measured successfully. Yellow indicates no object is detected or object is outside the field of view of the camera. Red indicates the additional configuration is required before dimensioning can start.

Parcel outline

When a parcel is measured successfully, a green outline is drawn over the video feed of its location. If there are multiple parcels underneath the camera, white outline is drawn over the dimensions of parcels instead.

Trigger area indicator

A blue rectangle is drawn over the trigger area. The dimensioner will only measure objects' dimensions if it is fully or partially within the trigger area.

Parcel dimension display

When a parcel is measured successfully, its dimensions will be displayed to the right of the video feed. Go to Advanced → Settings → Display to display additional information such as volume and dimensional weight.

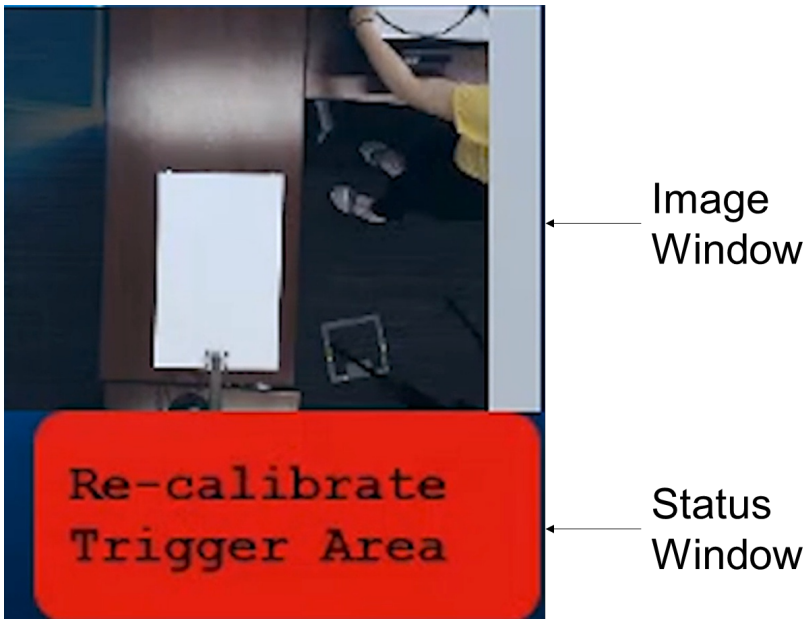
Status bar

Status bar color:

- Red: additional configuration is required, either the dimensioner needs to be connected or the trigger area needs to be configured.
- Yellow: the dimensioner is operating, an object can be placed in the trigger area to measure its dimensions.
- Green: object(s) detected within the trigger area are measured successfully.

Status Windows

Two translucent status windows appear on the bottom right corner of the desktop by default. The image window displays the current video feed and outlines the detected parcel. The status window displays status messages or dimensions and weight of the detected parcel.



To hide the image or status window, right click on the window and press Hide. To re-show the window, go to Advanced → Settings → Display, and check Show Dimension Window or Show Image Window.

The image and status window can be moved by left click and drag to the desired location.

Advanced Settings

The advanced settings window can be accessed via Advanced → Settings.

Display

- **Display Dimension**
  Displays dimensions when a parcel is detected in the trigger area.
- **Display Volume**
  Display calculated volume when a parcel is detected in the trigger area.
- **Display Dim Weight**
  Display calculated dimensional weight
  - **Dim Weight Factor**
    Dimensional weight factor (divisor used in dimensional weight calculation, typically 133 for North America or 5000 for metric systems)
  - **Dim Weight Unit**
    Unit the dimensional weight factor is expressed in. If the dimensional weight factor is specified in in^3/lb (e.g. 133 in^3/lb), select “in”. If the dimensional weight factor is specified in cm^3/kg (e.g. 5000 cm^3/kg), select “cm”.
- **Font Size**
  Font size for information displayed when a parcel is detected in the trigger area.
- **Show Dimension Window**
  Display floating window showing dimensioner status and dimensions.
- **Show Image Window**
  Display floating window showing the camera's video feed.
- **Minimize To Tray (Windows only)**
  Application will reside in system notification tray instead of taskbar when minimized.

Integration

- **Hotkey (Windows only)**
  When this hotkey is pressed, dimensions and/or weight will be entered by simulating keyboard input.
- **Dimension and Weight Rounding Threshold**
  The threshold for round up or down dimensional and weight values to the next integer when hotkey press is detected.

Measurement

- **Length, Width, and Height Offset**
  Offset the final dimension reading by specified offset. Can only be adjusted in the negative direction in legal for trade mode. Offset will be displayed in the main window next to “Tare:” in the top left corner.
- **Display Non-cuboid Parcel**
  Display a warning if a parcel is not cuboid. The parcel is not cuboid if it failed to meet any of the 2 parameters below.
  - **Box Factor**
    A box is classified as a cuboid if it is at least box_factor% close to a perfect square.

The suggested value of 90 means the parcel needs to be at least 90% close to a perfect square when looking from the top down. A higher box factor means the box needs to be closer to a perfect square.

  - **Height Factor**
    Height factor is calculated as the % deviation of the top surface of the parcel from perfectly flat. The suggested value of 3% means the top surface of the parcel cannot vary by more than 3%. A lower box factor means the box needs to be closer to perfectly flat on top.

- **Display Oversized Parcel**
  Display a warning if a parcel falls outside of maximum length, width, or height specified. Note if the parcel is not fully within the field of view of the camera, its dimensions will not be displayed regardless of whether this option is enabled.
  - **Max Length, Width, Height**
    The maximum length, width, or height of the parcel before a warning is displayed. A negative or zero value will be ignored by the application.
  - **Max Linear Dimension, Volume**
    The maximum sum of length, width, and height (linear dimension) or product of length, width, and height (volume) before a warning is displayed. A negative or zero value will be ignored by the application.

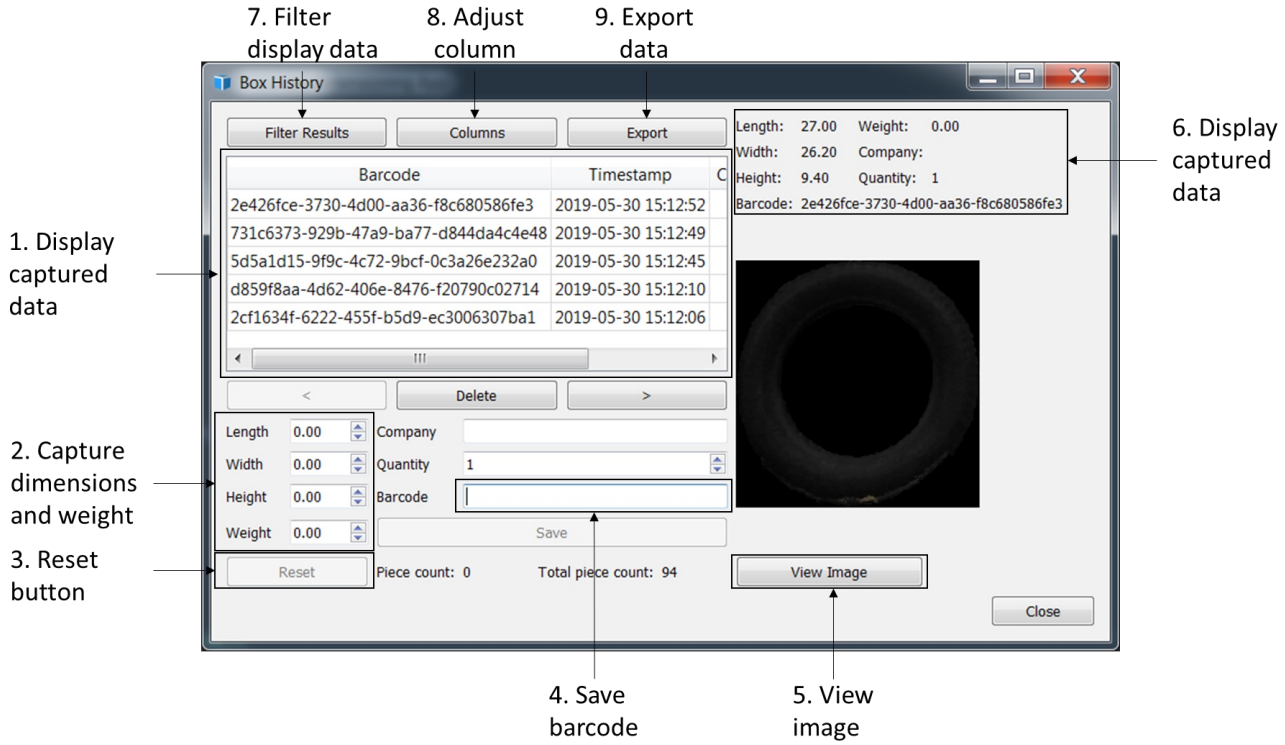
Advanced

- **Idle Frame Rate**
  To reduce CPU usage when no parcels are detected within the trigger area, frame rates are limited. Increasing idle frame rate can increase performance for in-motion applications.
- **Single Parcel Mode**
  Enable single parcel mode if dimensioner has trouble dimensioning unpackaged items.
- **Auto Calibrate**
  Dimensioner will calibrate to the trigger area automatically when no parcel is detected. Disable auto calibrate if trigger area is not flat (such as rollers).
- **Min Height**
  Minimum height of the parcel in millimeters before being detected. Leave at 0 for application default. The value can be set in order to dimension flat packages.
- **Keep History**
  Retain detected dimensions unless the object completely leaves the field of view.
- **IR Gain**
  Gain of the IR camera, increase this value if frequently detecting dark objects.
- **Hotkey Sequence**
  Keyboard sequence to enter when a hotkey press is detected. See Integration Guide for more details. Contact support@tricolopstechnology.ca for assistance.
- **Webserver Port**
  The port which the webserver can be accessed. In legal for trade mode, parameters that require unlocking can only be viewed and not edited using the webserver.
- **Cubetape Support**
  Detect scans from a CubeTape.

- **Barcode Support**
  Detect scans from a barcode scanner.
  - **Barcode Sequence**
    Keyboard sequence to enter when a barcode scan from a barcode scanner or CubeTape is detected. See Integration Guide for more details. Contact support@tricolopstechnology.ca for more information.
- **Video Exposure**
  Exposure time for the video camera. A zero or negative value enables automatic exposure mode.
- **HD Video**
  On supported camera models, enable HD video mode (double resolution) for clearer pictures.
- **2D Detection (Clear Trigger Area)**
  Detect flat parcels. When enabling this parameter, make sure trigger area is cleared. Flat parcels can only be detected if it is completely within the trigger area. This is a preview feature and should not be enabled in legal for trade mode.
  - **Sensitivity, Shadow Sensitivity, Consistent Frames**
    These parameters should not be modified by users. Contact support@tricolopstechnology.ca for more information.

Tricolops History

Tricolops history is used to store dimensions, weight, and images of products and parcels. The history window can be accessed via View → History.



Display captured data

The table displays captured dimension data for parcels. To display more information about the parcel, click on the corresponding row. To delete a record, highlight the corresponding row and press the “Delete” button. To edit the dimension or weight information, double click on the cell, change it to desired values, and press the “Save” button (in the same position as the “Delete” button as soon as something changed).

Capture dimensions and weight

If a dimensioner is connected, the length, width, and height field will be updated automatically. If a scale is connected, the weight field will be updated automatically. To change the values manually, click on the desired field and enter its new value.

Reset button

The reset button resets the length, width, height, and weight field to values reported by the dimensioner and scale if one is connected.

Save barcode

Scan barcode into the field to save the information. The updated information will be displayed in the table above.

View image

Pressing this button opens a new window displaying the full sized image of the parcel in the highlighted row.

Display captured data

The fields in this section displays further information about the parcel highlighted in the display table.

Filter display data

Filter the display table based on start date, end date, barcode, company, and / or quantity. Pressing the “Close” button will refresh the display table.

Adjust column

Change which columns are displayed in the display table.

Export data

Export saved data to a CSV (flat) file. The “Export” button only exports saved information in the current display table. The “Export All” button exports all saved information to the CSV file.